# Testimony before the House Government Reform Committee, Subcommittee on Energy and Resources United States House of Representatives

## Exhibits

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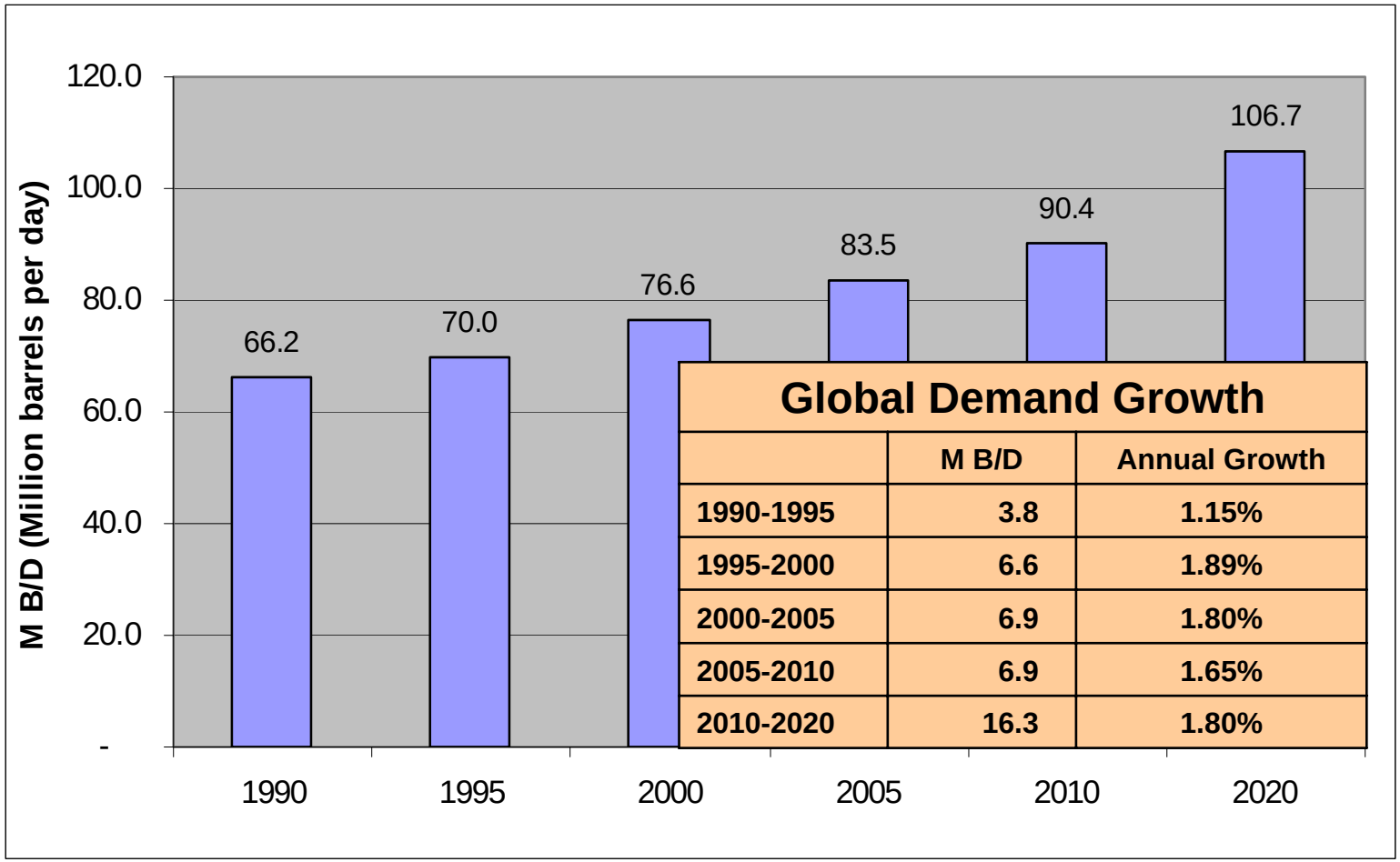
**October 19, 2005**

powered by perspective

# Exhibit 1
# Global Oil Demand History & Outlook

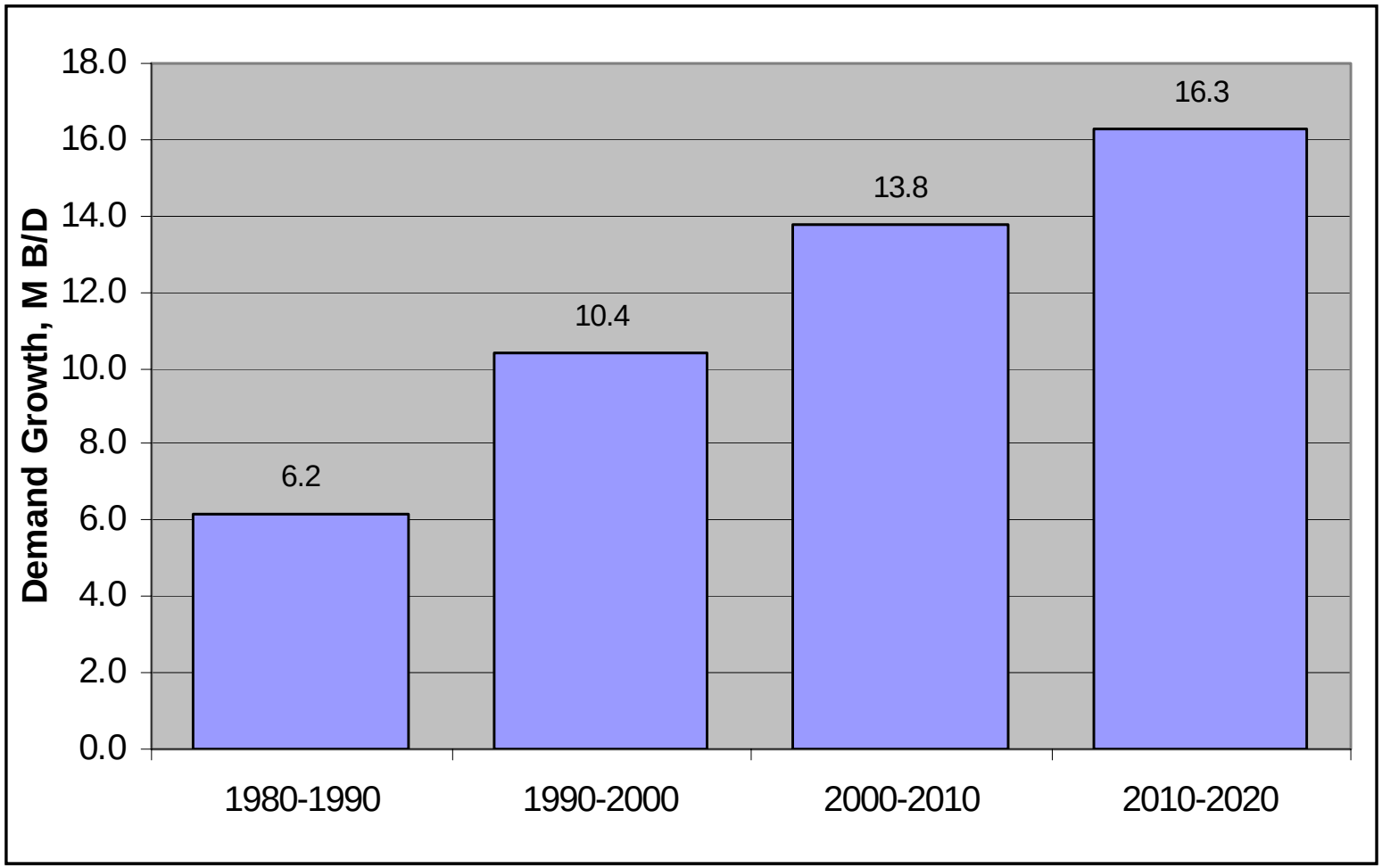



**Global Demand Growth**

| | M B/D | Annual Growth |
|---|---|---|
| 1990-1995 | 3.8 | 1.15% |
| 1995-2000 | 6.6 | 1.89% |
| 2000-2005 | 6.9 | 1.80% |
| 2005-2010 | 6.9 | 1.65% |
| 2010-2020 | 16.3 | 1.80% |

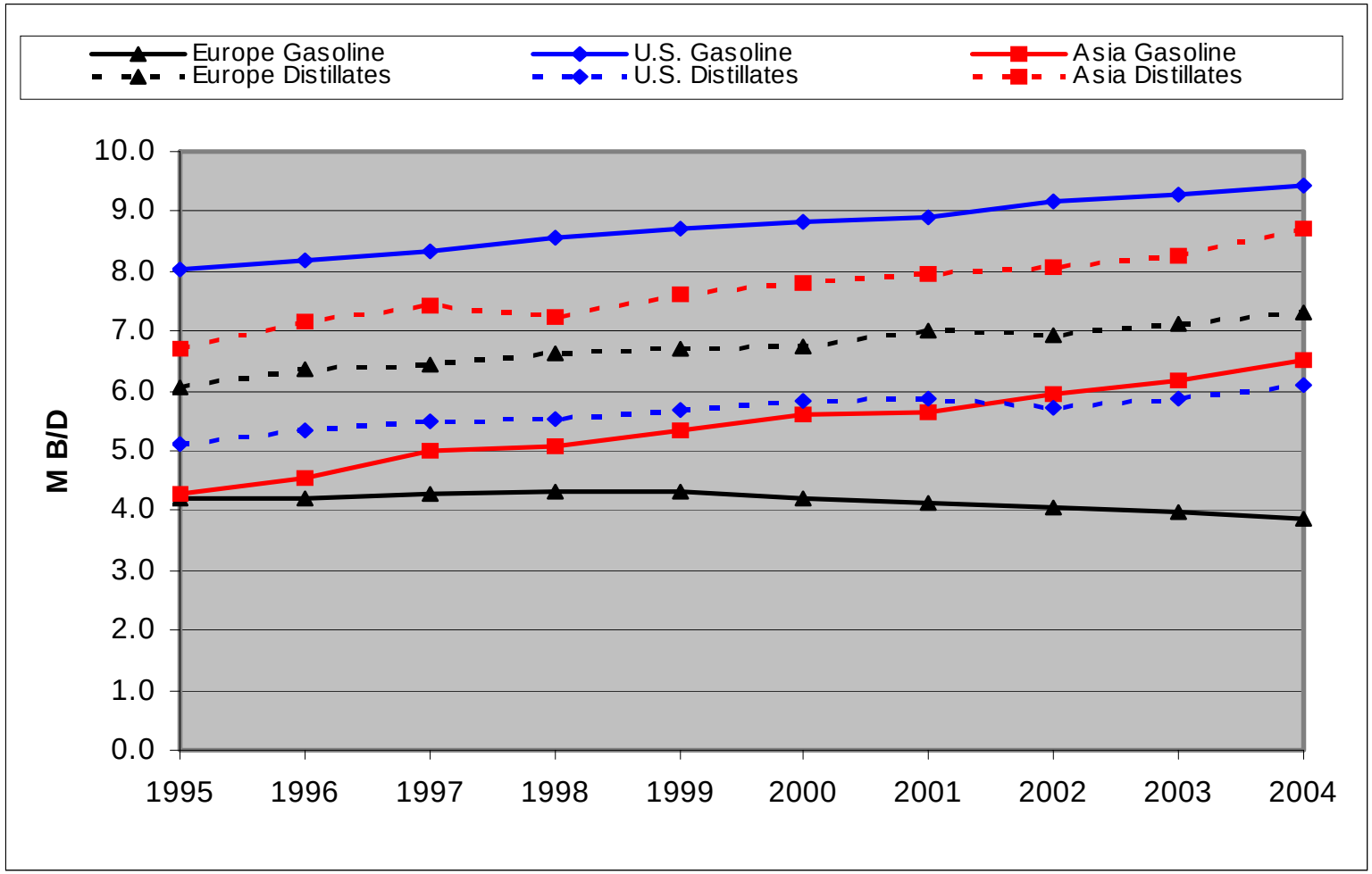
Source: IEA 2004 World Energy Outlook

# Exhibit 2
# Global Oil Demand Acceleration, 1980-2020



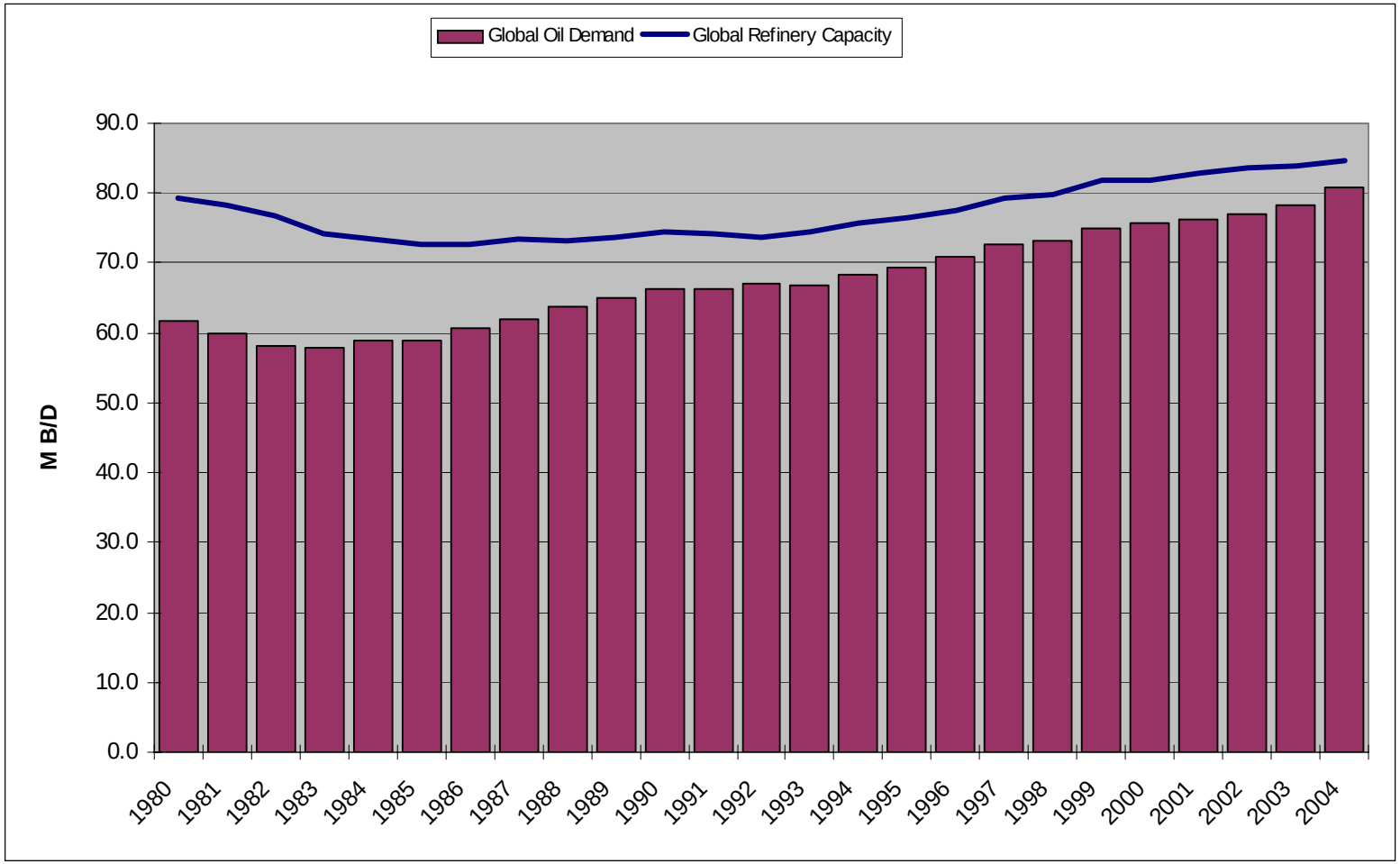

Source: IEA 2004 World Energy Outlook

# Exhibit 3
# Global Product Demand Trends by Region



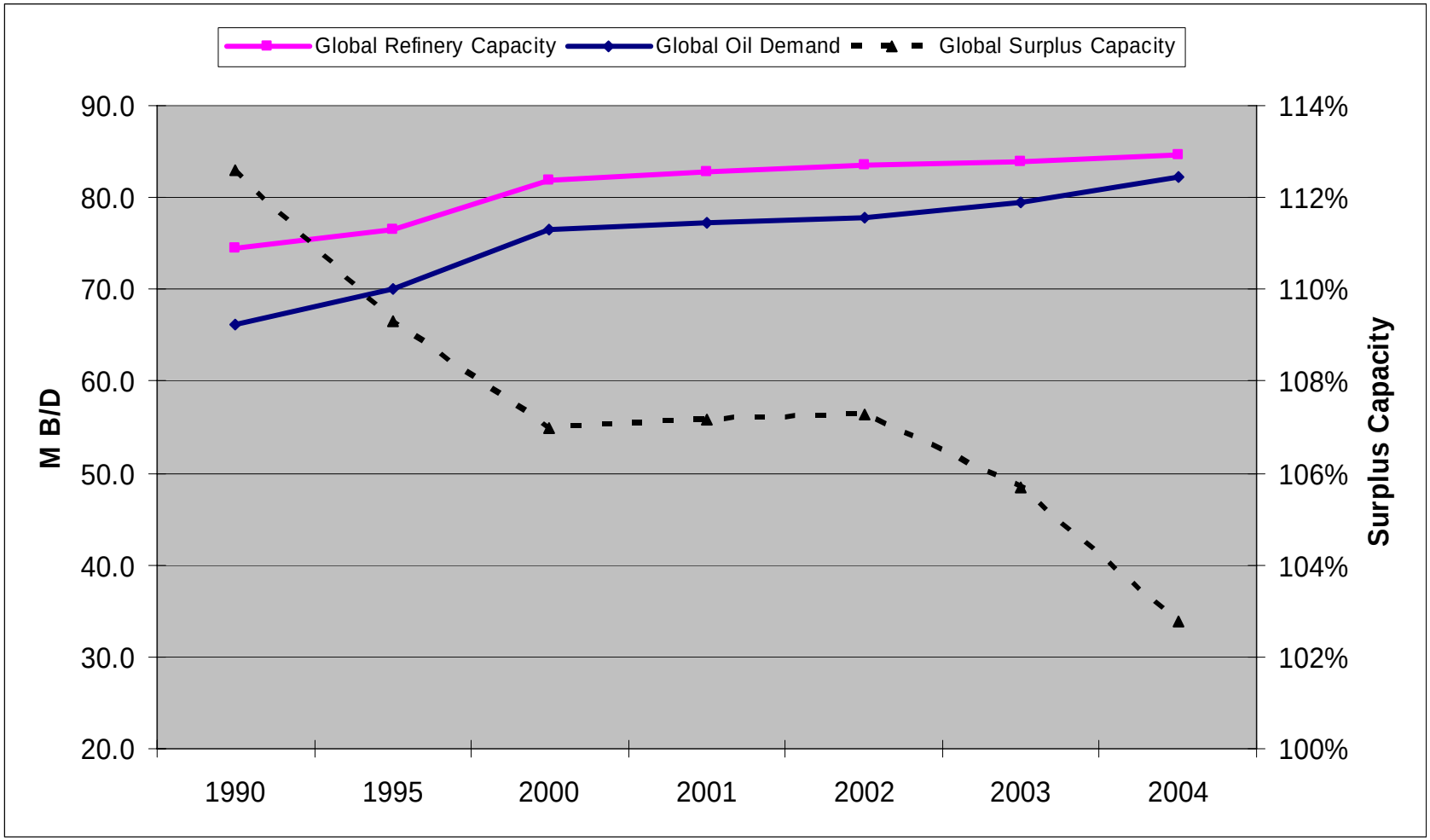

Source: 2005 BP Statistical Review of World Energy

# Exhibit 4
# Refining Capacity Trends



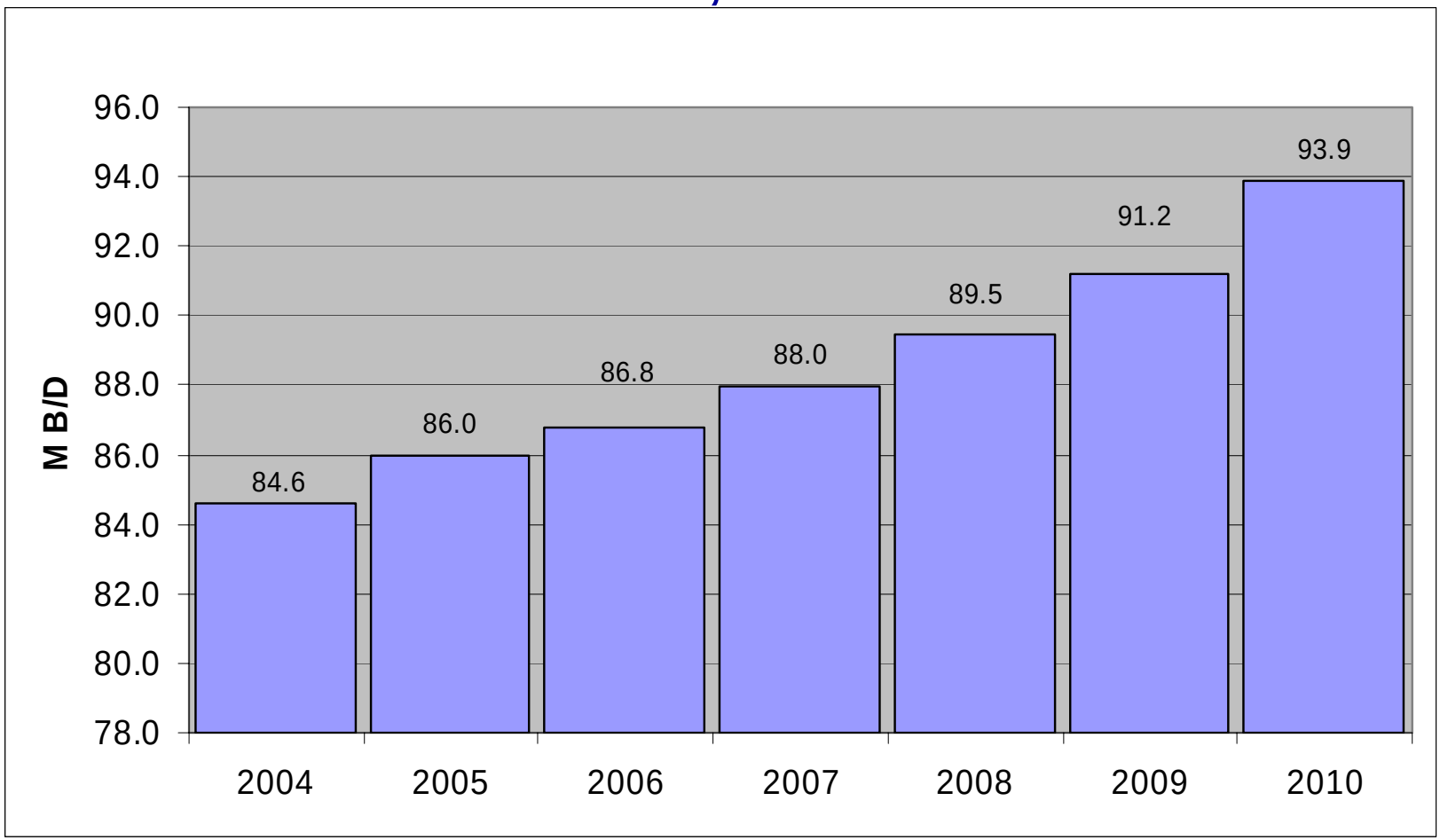

Source: 2005 BP Statistical Review of World Energy

# Exhibit 5
# Refinery Capacity Trends 1990-2005




Note: Percentages represent the refinery capacity to demand ratio.
Sources: Capacity-BP 2005 Statistical Review of World Energy, Demand-IEA 2004 World Energy Outlook.

# Exhibit 6
# Estimated Refinery Capacity Growth, 2004-2010



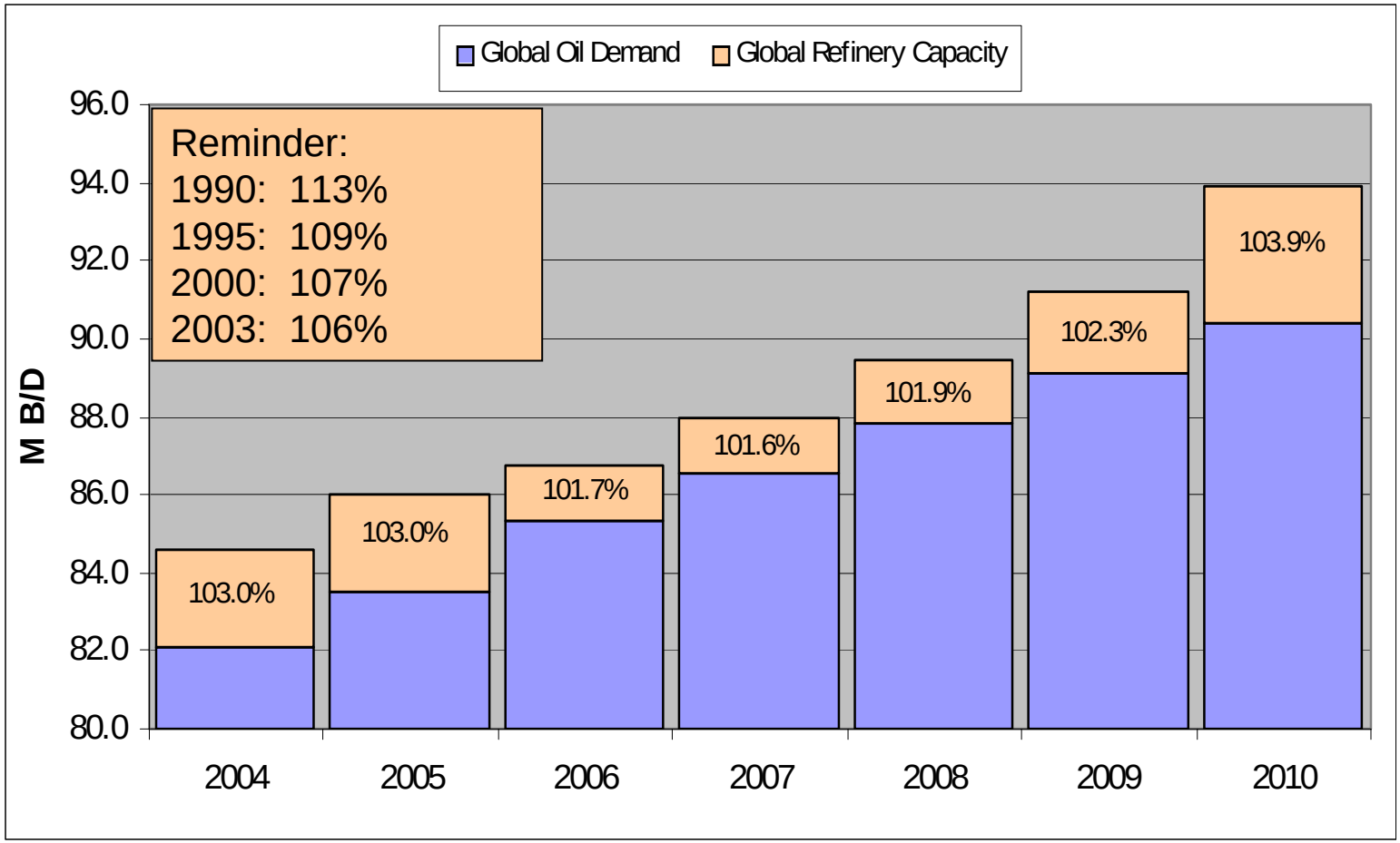

Sources: OGJ Worldwide Refinery Construction Report,
ICF Analysis; Trade Publications and Company websites.

# Exhibit 7
# Estimated Refinery Capacity Growth Summary, 2004-2010

| | | | |
|---|---|---|---|
| 2004 End of Year Global Capacity Actual | | | 84.6 |
| 2010 End of Year Global Capacity Estimated | | | 93.9 |
| Capacity Growth | | | 9.3 |
| | | | |
| New Refineries/Expansions | | | 5.7 |
| | Far East | 2.8 | |
| | Middle East | 0.9 | |
| | Latin America | 0.8 | |
| | United States | 0.7 | |
| | FSU | 0.3 | |
| | Other | 0.2 | |
| Capacity Creep (estimated) | | | 4.4 |
| Capacity Shutdown (estimated) | | | (0.8) |
| Capacity Growth | | | 9.3 |

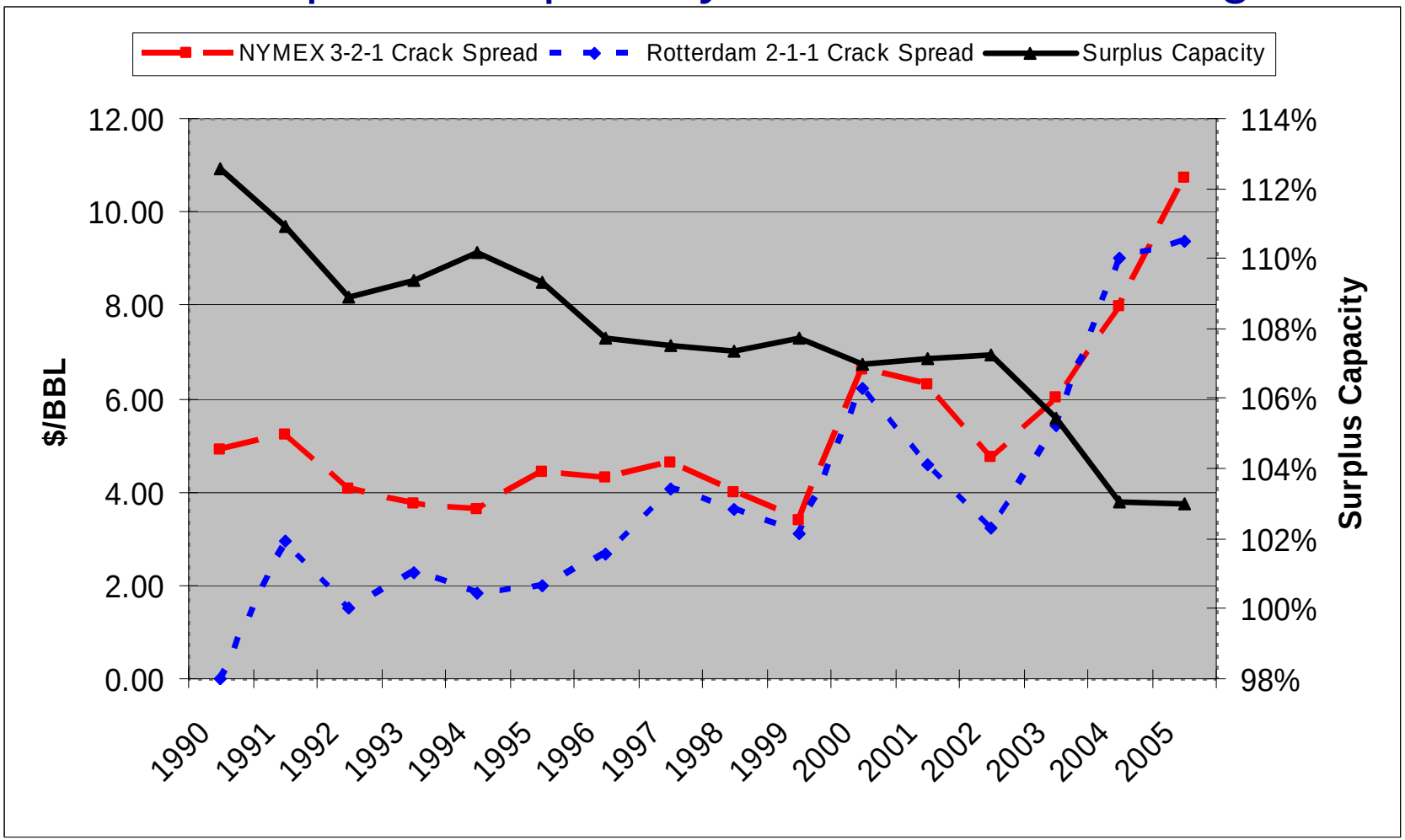
Sources: OGJ Construction Reports, ICF Analysis, Company Websites, Other Trade Publications

# Exhibit 8
# Estimated Global Refinery Capacity Growth vs. Global Demand Forecast




Note: Percentages represent the ratio of refinery capacity to demand.Sources: OGJ Worldwide Refinery Construction Report, 2005 BP Statistical Review of World Energy, IEA 2004 World Energy Outlook

# Exhibit 9
# Impact of Declining Global Refining Spare Capacity on Generic Margins




Sources: Prices-EIA, Surplus Capacity-2005 BP Statistical Review of World Energy, IEA 2004 World Energy Outlook

# Exhibit 10
# Refining Investment Patterns, 2000-2005

- Investment primarily in areas to reduce sulfur levels in transportation fuels, and to enable processing heavier and higher sulfur level crude oil
- Emphasis has been less on capacity and gasoline production, and more on diesel quality and raw material cost

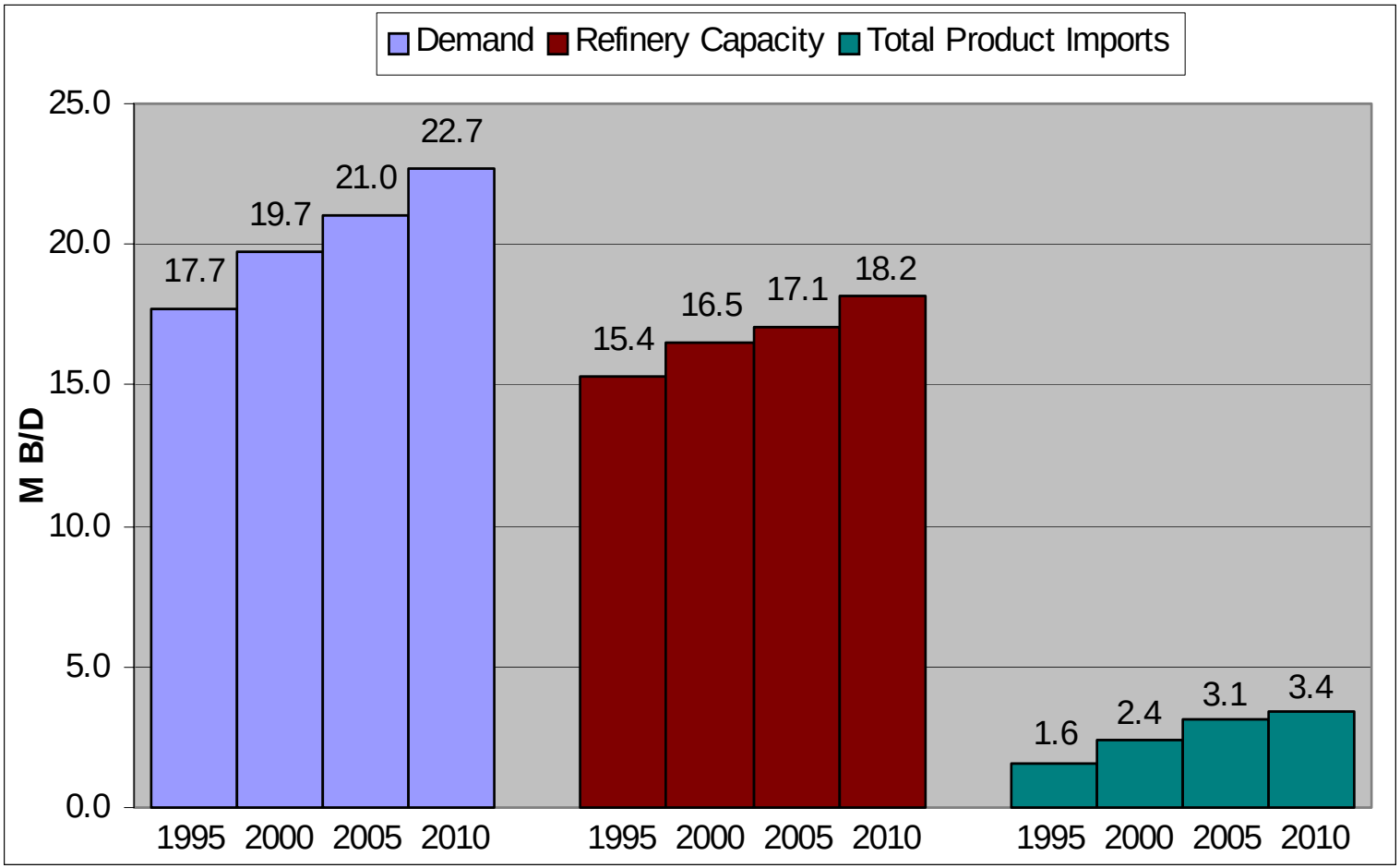
| Process | M B/D | | Growth |
|---|---|---|---|
| | 2000 | 2005 | |
| Crude Capacity | 81.5 | 82.4 | 1.1% |
| Coking | 3.7 | 4.4 | 18.9% |
| Coking Tons/d | 152.4 | 196.6 | 29.0% |
| Cracking, FCC | 13.8 | 14.5 | 5.1% |
| Hydrocracking | 4.0 | 4.7 | 17.5% |
| Hydrotreating | 36.7 | 41.3 | 12.5% |
| Sulfur, Tons/d | 56.1 | 71.1 | 26.7% |

Source: OGJ Worldwide Refinery Capacity Report

# Exhibit 11
# Reasons for Asia Grass Roots Projects

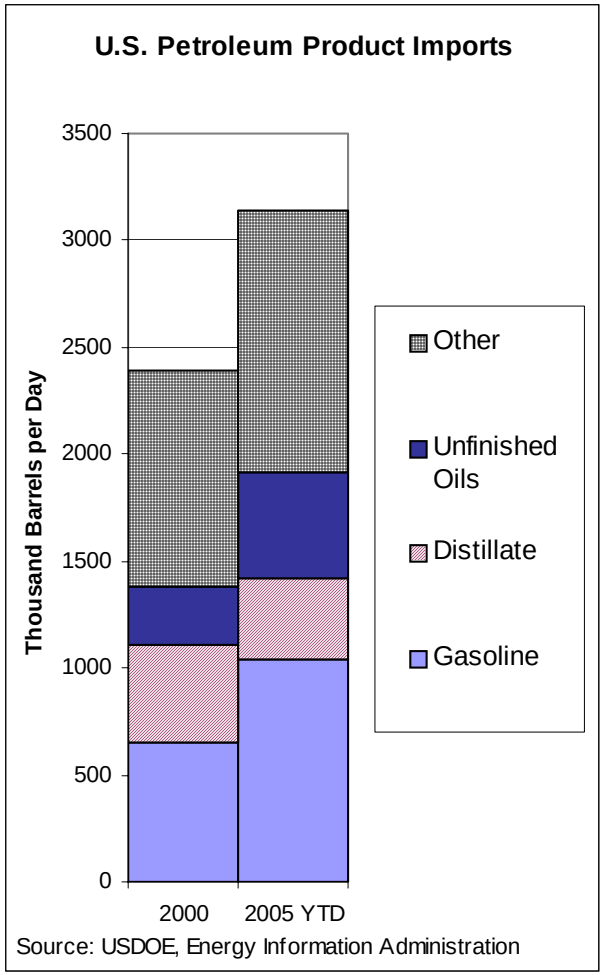
- Strong current margins attractive to investors
- Primary area of global demand growth ( China & Far East)
- Collaboration of Governments with Industry and NOC's
- Fast-track permitting and siting approvals
- Potential integration with Petrochemical investments and demands
- Lower cost of project (less regulatory needs and lower labor costs)

# Exhibit 12
# United States Supply, Demand and Import Outlook



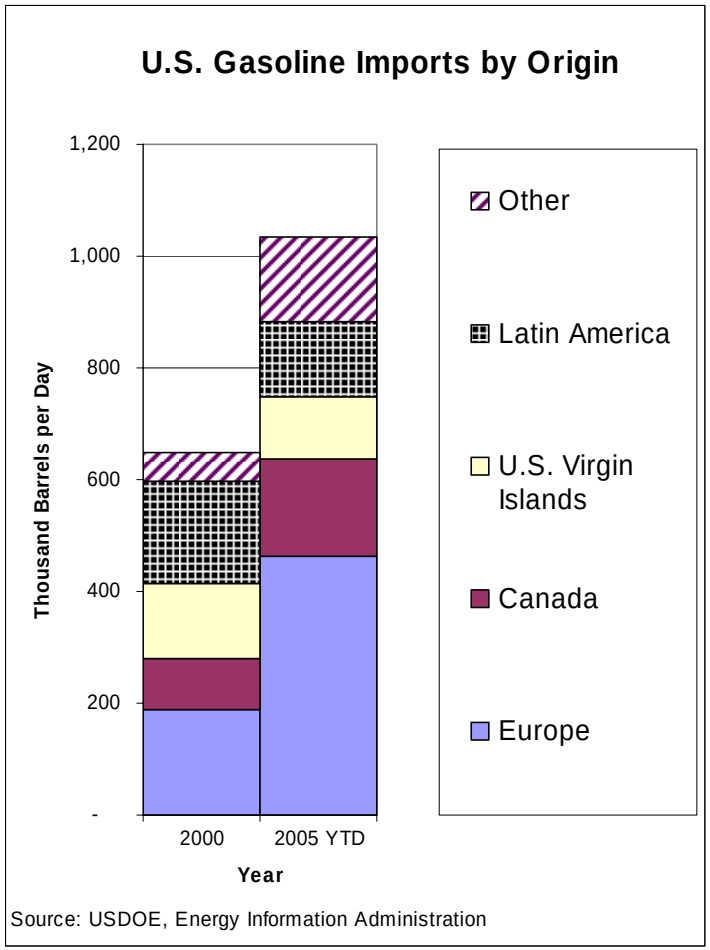

Sources: EIA Petroleum Supply Annual, OGJ Worldwide Refining Survey, IEA WEO Demand Forecast (2010), ICF Analysis

# Exhibit 13
# U.S. Import Trends, 2000-2005




- Levels have grown from 2.4 MMB per day in 2000 to about 3.1 MMB per day in 2005 (thru July).
- Gasoline imports higher by 50%; Distillate imports slightly lower (seasonal issues, lower Jet imports, and Europe demand growth)
- Unfinished Oil imported to fill out U.S. Refinery capacity and produce incremental gasoline & distillate based on economics. Increased by 80% over the period
- Other Oil imports are residual fuel, LPG products, asphalt, and other stocks not related to transportation fuel production

# Exhibit 14
# U.S. Gasoline Import Source Trends, 2000-2005




- Imports from Europe have increased by over 150% from 2000 due to surplus Europe gasoline from growth in diesel transportation and economics to export to the U.S.
- High volumes enter the U.S. from Canada and Virgin Island refiners into East Coast markets
- Latin America volumes have declined by about 30% due to specification changes and demand growth
- Other source areas include the Middle East and Africa and Far East volumes into the West Coast.
- Over 60% of the gasoline import growth is blendstocks

# Exhibit 15
# U.S. Imports and Source Outlook 2005-2010

- Total product imports expected to grow from 3.1 to 3.5 MMB per day over the period based on capacity and demand forecast
- Issues:
  - Key suppliers (Canada, Virgin Islands, Europe) can meet U.S. gasoline specifications. Other areas problematic or unknown.
  - Higher global demands for gasoline and diesel could change market price dynamics
  - Abatement in U.S. demand growth will lower import requirements.
  - Relative market prices, freight costs, product specifications will drive the ultimate flow of oil products into the U.S.
- Anticipate much of the increased imports to be gasoline components and unfinished oils, not finished product.

# Exhibit 16
# Investing in Refining Capacity in the U.S.: The Risks and Concerns

- The capital cost (particularly for grass roots capacity) is enormous, at $5-7 Billion for a large new refinery.
- The timeline to plan, permit, and construct can take 5 to 7 years before any revenue flow begins.
- The refining business has been strong since 2004, but has historically had weak margins. The sensitivity of demands to price creates exposure to domestic or global economic downturns or conservation efforts which create huge capacity investment risk
- The U.S. incurs added project costs due to environmental technology requirements, as well as higher construction labor costs which impact project economics
- The threat of government interference in free markets is a risk that must be weighed. Regulatory changes in the U.S. continue to occur which impacts the economics of projects.

# Exhibit 17
# What can government do that would be positive and enduring?

- Ramp up energy conservation awareness, provide training, educate consumers (higher prices provide incentive).
- Work with refiners, pipelines, marine & terminal companies to develop clear contingency action plans for major supply disruptions
- Streamline the boutiques fuels issue, to address the impact on tankage and distribution systems while balancing environmental needs. Work toward consistent global product quality standards
- Take steps to smooth the path for refining investments, including a long term policy that identifies regulatory requirement timings clearly and well in advance so that Industry can invest with firm footing, streamlined permitting and siting processes, and tax benefits consistent with other capital intensive industries.
- More substantive and comprehensive CAFÉ standards should be enacted.
- Carefully study issues being proposed such as product SPR's before implementing at high taxpayer cost.

# Exhibit 18
# Summary: US Product Supply Outlook

- Based on demand and capacity forecasts, global product supply will remain tight, with strong refining margins, exposure to supply and price disruptions, and high prices
- The U.S. will see higher import levels over the next 5 years, with the availability of additional imports dependent on overall global demands and refinery capability. Product will move where market prices dictate.
- Continued refinery capacity growth, but no large “grass roots” expansions in the U.S.
- Much greater potential for demand abatement since higher prices will create strong incentives to conserve.